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Coordinator — Hello and welcome to the state training coordinators teleconference. All participants will be on listen-only until the question and answer session. This conference call is being recorded for replay purposes, by the request of the company.

Now, I'd like to turn your conference over to your host, Miss Becky Perdue. Ma'am, you may begin.

B. Perdue — Welcome to the 2004 public health teleconference series on infectious disease. This is Becky Perdue, Virginia State Training Coordinator at the Virginia Division of Consolidated Laboratory Services in Richmond, Virginia.

Today's teleconference is being hosted by the Virginia Department of General Services, Division of Consolidated Laboratory Services and

sponsored by the National Laboratory Training Network in cooperation with state public health laboratories.

Welcome to our teleconference, "State Training Coordinators, Their Critical Networking Roles." After the program, each participant needs to register and complete an evaluation form. Documenting your participation helps us to continue to bring high quality training programs in a variety of formats.

To do this, go to http://www.phppo.cdc.gov//phtnonline/. The password is, "networking." When you have completed the registration and evaluation form, you will be able to print your certificate of attendance. You have until May 13th to complete this process. These instructions are in your original confirmation letter and the general handout. They were also e-mailed to each site representative this morning.

If time permits, the end of the program will be opened up for questions. You are on a listen-only line. We cannot hear you. You can only hear us. Again, welcome and thank you for joining us. We have 50 sites from across the United States listening to this teleconference.

Today's speaker is Dr. Norman Crouch. Norman A. Crouch, Ph.D., is Director of the Public Health Laboratory Division at the Minnesota Department of Health. After earning his doctoral degree in medical microbiology from the University of Wisconsin, he was a postdoctoral Fellow for Baylor University College of Medicine and the Pennsylvania State University College of Medicine. He then served on medical faculties, first, at the University of Iowa College of Medicine, and then at the University of Illinois College of Medicine. Dr. Crouch is certified by the American Board of Medical Microbiology in clinical virology and public health. Currently, he also is president of the Association of Public Health Laboratories, APHL, headquartered in Washington D.C..

It is my pleasure to introduce to you and to welcome our speaker, Dr. Norman Crouch.

Dr. Crouch Thank you very much for the introduction, Becky. I want to also thank everyone for taking the time to participate in the conference this morning.

Let me begin by indicating that I'll let you know when to change the slides, so that you go from one to two, etc. Once in awhile, I'll try to

describe, or I won't try, but I actually will describe the slide to assure that there's a relationship between what you see and what I'm saying.

If you turn to the second slide, you should see a picture of a beautiful lake in north central Wisconsin. I'd like all of us to think right now about our public health laboratories and what we're faced with today in our daily operations. Of course, the best place to think about that is out in the middle of a lake like this, so I thought I would put a picture up, so that at least we could look at what that would be like.

Let me set the stage for the talk. I want to first talk about the problem. I think the problem, one of the major problems we're faced with today has to do with emerging threats. Then, I want to talk a little bit about the solution. One of the solutions in dealing with emerging threats is to develop laboratory networks. Then, I want to discuss the need. That has to do with workforce training, so that those networks function to deal with emerging threats. Finally, I want to discuss the role of the state training coordinator in providing the networks being involved in establishing these networks and also being involved in education and training to assure that in these networks we have the best possible laboratory practices.

If you turn to the third slide, this is a slide that depicts two reports that came out fairly recently from The Institute of Medicine. One entitled, "Emerging Infections, Microbial Threats to Health in the United States" was published in 1992. The second one, more recently, about a year ago called, "Microbial Threats to Health, Emergence, Detection and Response" came out in March of 2003.

If you turn to the next slide, it gives a little bit of a description concerning these reports. In the 1992 report, it was described as a wake-up call. Infectious diseases pose a threat to United States security, according to the report. It also indicated that we were becoming complacent about wonder drugs and vaccines. Also, that there was a problem of emerging and reemerging diseases.

About ten years later, in the report that came out last year, the report indicated that infectious diseases are still increasing. There's a potential to disrupt populations, economies and governments. One nation's problem becomes every nation's problem. Finally, public health and medical communities are unprepared.

On the next slide, we begin to list the factors in this emergence that was concluded by the Institute of Medicine. The first of these is microbial adaptation and change. Of course, we all know, as microbiologists, as many of us are, microorganisms have a tremendous potential for changing to adapt to their environment. Human susceptibility to infection, altering host immunity as a result of malnutrition and other factors, climate and weather can impact the growth and movement of pathogens and vectors. Changing ecosystems can affect and influence transmission of waterborne, airborne, food borne and vector-borne diseases as well as to animal reservoirs.

To go on to the next slide, "International Travel and Commerce," we see today rapid transport of humans, food and goods, that provides an opportunity for emerging threats to occur. Economic development and land use results in increased contact with animal reservoirs.

Human demographics and behavior results in increases for risk of exposure. This is exasperated by urbanization and also by the development of mega cities that we see in regions of the world today.

Technology and industry can also result in emerging threats. Advances in medical technology like the more broad use of transplants, the use of blood transfusion, on a large scale, provides opportunities for infectious diseases to be spread and transmitted. Also, food production, in major areas of food production where antibiotics are used to facilitate food production, this provides an opportunity to develop anti-microbial resistance of pathogens that affect humans.

In the next slide, "Breakdown of Public Health Measures," there's a lack of portable water sanitation, of vector control, or immunization in some parts of the world. There are problems with nozacomial infections in healthcare facilities.

Poverty and social inequity also are factors in emergence. Poverty, not only personal poverty, but also poverty that occurs in regions that result in the lack of a tax base, a lack of public funding to provide the kind of public health institutions that are necessary to protect the public's health.

War and famine, with war and famine there's displacement of populations, malnutrition and crowding that are factors in emergence. Lack of political

will, in today's world, we have to be concerned that the have's must help the have not's because we live in a global community.

Finally on this slide, the intent to harm. We're all faced everyday now with the concern about the possibility of terrorism occurring in our cities.

In the next slide, actually, the next slide and the following slide are duplicates. If you turn to slide nine, "Microbial Treats, Major Concern," I have here listed some of the concerns that the Institute of Medicine concluded from looking at these factors in emergence. They pointed out that, in their report, that the world today is highly interconnected. It's really a global village. They discuss the possibility of microbial perfect storms. We're somewhat familiar, many of you, with the movie called *Perfect Storm* where a lot of weather conditions all came together at the same time and produced horrendous effects.

There's a convergence, a possibility of a convergence of multiple emergent factors. I just listed 13 of these factors in the report. If some of those come together, it can have dire consequences. This creates especially high-risk environments and "could result in a catastrophic storm of microbial threats," as it's quoted in the report.

Now, if you turn to the next slide, slide ten, let's take a moment to look at the consequences, and I just listed three here, but they are very broad. One is, with the emergence of microbial threats, we have to be concerned about the development of anti-microbial resistance. We have to be concerned about infectious disease outbreaks. For example, HIV, HPS, or Hantavirus Pulmonary Syndrome, or West Nile Virus, or SARS, monkey pox, and we don't know what might be coming down the pike this afternoon, tomorrow or next week.

Another consequence, of course, as I mentioned that we all have to think about today is the possibility of bioterrorism as an emerging microbial threat.

This is the problem, the concern, that we have to think about. That would be the emerging threats and the factors coming together to make this threat even greater than we experienced in the past.

What do we need to do to address the problem? As I mentioned, I think one of the ways to address the problem is to develop laboratory networks

to be able to address this. These networks include public/private laboratory networks, as well as local, state and federal networks.

If you go to the next slide called, “Focus of Laboratories,” I’m just going to put this slide here and describe what I think most of us realize, and that is, not all laboratories are the same. That’s not clear to everyone, but those of us who work in the laboratories realize that different labs do different things. I use this slide to point out that the comparison, if you’re setting up networks of laboratories, you want networks made up of laboratories that do different things to get the job done.

If we look at laboratories in general, we all provide information for decision making. That's what we do. If you look at private clinical laboratories, they do diagnostic testing, primarily. Some do reference testing. Their purpose, their function, is medical management. They provide data to manage patients. Their focus is really on individuals or individual patients.

In our public health laboratories, we do some diagnostic testing. We do a lot of reference testing, and we focus on surveillance and monitoring. We focus on populations. We need to bring those together in networks, so that

we have an integrated network that is useful to identify public health threats.

If you go to the next slide, you see a pyramid that we're all very familiar with, the National Laboratory Response Network pyramid. As you recall, this scheme was designed in 1999 through a cooperative effort between the CDC, the FBI and the Association of Public Health Laboratories. It's familiar to all of us, and it begins at the base with the broad sentinel lab base, the reference laboratories that are state public health laboratories and some large, local public health laboratories. Then, at the top are the national laboratories, which include CDC and Yosamerite.

If you go to the next slide, it's the pyramid tipped on its side, just to give a better idea of what is included in that sentinel base, the broad base in this response network. This base includes sentinel clinical laboratories, public health laboratories, food labs, veterinary labs and also environmental labs. That sentinel base is very, very large, very inclusive, and very important.

If you go to the next slide, slide 14, which shows what might be described as a propeller or a pinwheel. This has been developed by The Association of Public Health Laboratories as sort of an expanded model of the LRN.

It's an expanded model that tries to be inclusive. It includes all kinds of laboratories, all kinds of federal agencies and tries to address all kinds of hazards, biological, chemical and radiological.

If you'll look at the slide in the center of this pinwheel, or we sometimes affectionately call it the propeller model, you'll see the public health as the focus. It's really based on the three tier LRN where you had the federal agencies, confirmatory labs and then the sentinel labs. As I mentioned, it's designed to target all kinds of terrorism, clinical, food, environmental, veterinary with biological, chemical and radiological agents.

If you now turn to the next slide, this is a rather busy looking slide, but I put it here to just describe how this network would work in our various states. If there's an incident, if you look down in the lower left-hand corner of this slide, the local sentinel laboratories might see something unusual, or they might have an organism that they can't rule out as being a possible bioterrorism agent. They then, according to the LRN, will notify the state public health laboratory. The state public health laboratory will confirm the identity of this agent, if it's a bioterrorism agent, and interact with the state public health epidemiologists. They interact with the

commissioner of health. The commissioner of health, at least in our state, and I think this is true in most states, interact with the governor. The governor may provide state resources to get the job done to deal with the threat. The commissioner of health is involved in carrying out actions to meet the threats.

These actions include communication. They need to inform the public, assure the public and also direct the public on what they need to do. Of course, intervention is also part of the actions that come out of the agency of health. This includes anti-microbials or vaccines or other kinds of interventions that might be necessary.

You can see from this, within our states, if we have an emerging threat like bioterrorism, or an emerging threat of a naturally occurring infectious disease, we need to have these networks in place with the sentinel laboratories, the state laboratories and all these other things in place to be able to respond in our jurisdictions.

What needs to be done to develop and sustain these essential lab networks? If you go to the next slide, slide 16, it's a slide that, once again, lists the IOM report of 2003. In that report, it also gave 13

recommendations of what needs to be done to try to address the emerging threat problem.

One of those, as I've indicated on that slide, is to educate and train the microbial threat workforce. If you go to the next slide, there's another Institute of Medicine report. This one's entitled, "The Future of Public Health in the 21st Century." This came out last November, November of 2003. I've listed on this slide and the next three slides, some of the conclusions, or some of the concerns that were expressed in this IOM report.

One was the lack of real time surveillance in epidemiology systems. Another, incomplete domestic preparedness or emergency response capability. Third, communities without access to essential public health services. These are some of the things that the IOM report was concerned about, some of the conclusions that they have about the state of affairs that we currently experience.

In the next slide, slide 18, again, the same report. It goes on to list vulnerable, outdated health information systems and technologies. Next, the insufficient, inadequately trained public health workforce. That has to

do with the report I mentioned previously about the workforce training need. There are also antiquated laboratory capacities, according to the report.

In the next slide, slide 19, it goes on to indicate public health infrastructure suffers from neglect. Even though, in 1992, the IOM report indicated that emerging threats were a problem, that infrastructure was not what it should be, we've made some progress, but in this report that came out in November of 2003, there's still a concern about infrastructure suffering from neglect. There's a need to strengthen workforce competence and a need to provide appropriate education and training.

In this list of concerns by the IOM in this November report, the two that I would like us to focus on in the remainder of this talk is the insufficient, inadequately trained public health workforce and the need to provide appropriate education and training.

If you go to the next slide, I've tried to depict, from my perspective, what this network needs to be like. The sentinel laboratories need to be able to interact and be networked with the public health labs.

The public health workforce then, we need to consider, I think, in a very broad sense, not just those of us who work in public health. But also the members of the networks that need to be put in place, the sentinel laboratories, as being all part of the public health workforce. I believe that is the focus on the state training coordinator, to provide what is needed to make these networks happen, to help make these networks happen, but also to provide the training and education that's needed to make these networks what they need to be.

If you go to the next slide, slide 21, "State Training Coordinators, Their Critical Role," this again goes back to the IOM report where it says, "Educate and train the microbial threat workforce." I believe that that's a very important role that our state training coordinators need to play in each of our states.

Educate, of course, means to provide the most current information. Train means to provide the most current technology. The networks that we really are talking about here, or thinking about, to address the need we have with emerging threats is to promote an interdependency. Our laboratories are, more or less, independent in the past, but now, we really

need to move toward a more interdependent nature of laboratory interactions.

On the next slide, slide 22, the role of the state coordinator is both internal and external. In that picture, you see Randy Graham who is the Minnesota State Training Coordinator. In that picture, he's actually involved in providing a workshop, a bioterrorism workshop, to our sentinel laboratorians.

The internal focus of the state training coordinator is, of course, to provide continuing education to our laboratory staffs in public health and to identify training and educational needs and opportunities that need to involve our laboratory staffs internally.

If you go to the next slide, slide 23, you'll see another pyramid. This is the same one I showed before, but this is the CDC depiction of the LRN. It has, of course, the sentinel base, the reference laboratories in the middle, the state labs and large public health labs, and the national laboratories. I've put this slide here just to show the role of the state training coordinator being located in the state laboratories, the reference

laboratories, and the important role they play in external training of folks, laboratorians in those sentinel laboratories.

In the next slide, slide 24, I tried to show the difference between training that comes from the CDC and training that I believe needs to occur in our individual states. The CDC provides training to the state laboratory personnel. The trained state laboratory personnel, and certainly this is, as I mentioned, a major role of the state laboratory training coordinator, is to train the local laboratories within individual states. The CDC trains the state labs, and the state labs need to train the local clinical laboratories. Of course, we don't believe for a moment that we're going to do all the training of clinical laboratories because we don't do all those things that clinical laboratories do. What I have in mind here or what I'm discussing is really the kind of training that's important to address public health problems that our laboratories in public health need to address, the sentinel part of that.

If you go to the next slide, I just want to take a couple of slides to describe the National Laboratory Training Network. Slide 25, it points out that the National Laboratory Training Network is overseen by The Association of Public Health Laboratories and the CDC. Originally, the NLTN came out

of the CDC. It's now affiliated with APHL. APHL and CDC provide oversight.

The mission of the NLTN is to improve laboratory practice of public health significance through quality continuing education. This is quite a remarkable network. It is involved in continuing education with programs, presentations, like you're hearing today. Also, they provide an impressive amount of training resources that are available to state laboratories and other public health laboratories.

In the next slide, it points out that there are actually four regional offices of the NLTN. There's an office in Boston, Chicago, Nashville and Richmond, California. Part of that network, then, are these regional offices, but at the local level, we have the state training coordinators. They provide local source of information, and they represent the NLTN locally. It's a remarkable network. Our state training coordinators are part of that overall network.

If you go the next slide, slide 27, I'd like to give my definition of the state training coordinator. Training, of course, means specialized instruction and practice. Coordination has to do with harmonious interaction. Putting

those two together, I would say the state training coordinator is the individual who develops and provides specialized instruction and training at the state level to assure quality laboratory practice in public health.

That's an awesome responsibility and one that I think all of us need to realize are our important responsibilities and important activities that states need to recognize in order to address the public health threats that we are faced with today.

In the next slide, I just, in the next few slides, want to quickly just list the various titles that state training coordinators go by. Some are actually called, "state training coordinators." That's, at least at this point, more the exception than the rule. Sometimes, they're called quality assurance training coordinators, bioterrorism training coordinator, teaching coordinator, training and outreach coordinator. One person can have many names, often many hats.

On the next slide, slide 29, goes on to list more of these position titles that are actually training coordinators. That includes laboratory bioterrorism program manager, program administrator training coordinator, learning coordinator, training coordinator, which, actually, is the most common

depiction, state laboratory training coordinator. The next slide, we have state laboratory trainer, coordinator, laboratory outreach coordinator, director of education, laboratory response network coordinator. The next slide, it goes on, bioterrorism teaching coordinator, supervisor of training section. Then, the last category is no specific title. That occurs in some 30% of the state laboratories do not really have a title for their training coordinator, the person who, at some level, is involved in training and education.

I think that has both internal significance and external significance. Internal significance, it's, I think, important, and we have found this certainly to be true in our state. It's very important that a state training coordinator be identified as being the lead person involved in training and education opportunities. It's important to have that person designated internally and recognized internally.

Externally, I think it's even of greater significance. If you're going to go out to sentinel laboratories and provide training and education, it's important that the sentinel laboratories have a training and education coordinator at the state level that they can use as a contact person.

In the next slide, in the next few slides, I want to just give you some examples of the role state training coordinators have and some of the activities they're involved in. On slide 32, these activities are listed as partnering with the NLTN, partnering with the clinical laboratories, the sentinel laboratories, partnering with the state training coordinator colleagues. Every two years, there's a national laboratory training conference that brings together all of the state training coordinators, and they have an opportunity to network among the states.

Their activities also involve the development and implementation of education programs and training programs and providing continuing education opportunities to folks both internally and externally in state laboratories.

The next slide, slide 33, goes on to give some of the examples of Minnesota activities. I want everyone, of course, to understand that there are many excellent examples of activities that are occurring in your states as well. I hope that you're aware of these. In some cases, you may not be aware. In some cases, perhaps, these activities need to be facilitated.

I'm most familiar with what Randy's doing here in Minnesota, so I want to list some of those for you. In slide 33, the activities I have listed include, first of all, continuing education for infectious disease laboratory staff. That would be the laboratory staff here within our public health laboratory.

Next is training of National Guard CST or Civil Support Team staff. Here in Minnesota, and I'm sure this is true in other states as well, we have a close working relationship with these National Guard CST staff. Because, in many situations, they may actually be part of the first response to an incident, and we need to work very closely with them because if they provide field testing, we provide the confirmation of that field testing, so it's important that we train them.

A third activity that Randy's involved in, in our laboratory, is continuing education for environmental laboratory staff. This is an area that we don't have much experience with in the NLTN, particularly in our state laboratories. Some state laboratories do not have an environmental laboratory, but many of us do.

Currently, there's a proposed Minnesota/Iowa collaboration that Randy and Beth Hockstettler have begun to think about in providing continuing education for some of our environmental laboratory staff. I think that's a wonderful step in the right direction to begin to bridge that gap.

In the next slide, slide 34, we go on with some of the Minnesota activities that include sentinel lab educational slides. Randy and other members of our staff here are putting together slides that we can send out to our sentinel laboratories for training purposes and education purposes. Another activity is developing internal lab training programs to assure the competency of our state laboratory staff. Another is planning for clinical lab collaborative meeting. Here in Minnesota, each year in the spring, there's a large meeting that involves the bringing together of eight different professional laboratory organizations. This goes on for three days. Randy has been very actively involved this year as part of the planning committee. I'm sure things like that also occur in other states. This is a great role for the state training coordinator to play.

On the next slide, we go on to talk about some additional activities, emergency preparedness and internal education and training, developing specialized sentinel lab workshops. I mentioned, when I showed a picture

of Randy providing an exercise in BT workshop here in our laboratory, and we're not just focused on bioterrorism. And training coordinators don't just focus, or I don't believe should just focus on bioterrorism, but there are a lot of other things of public health significance that they need to provide, training and educational opportunities to improve and increase the quality of laboratory practice within our states.

Also, serving on clinical laboratory workforce shortage committee. Randy is involved as well as others in laboratory on addressing laboratory workforce shortage that's occurring in our clinical laboratories as well as in some of our public health laboratories.

Then, finally, on slide 36, two additional activities that we're involved in here is to provide education and training sites on a Web page. We are developing a Web page, as many of you in other states have also, a Web page for our public health laboratory. We have set that up so that it's easily accessible by our sentinel laboratories in the state. Randy typically puts education and training sites on that Web page, so that they can be found by the clinical laboratories, and it's been a very important tool for the clinical laboratories to have access to.

Then, finally, developing sentinel laboratory workshops for bioterrorism, as I mentioned, becomes a very important role for the state training coordinator, in collaboration with other staff in the public health laboratory.

To go on to the next slide, slide 37, want to talk, just very briefly, about some of the challenges that the state training coordinator faces as they attempt to establish these networks and provide education and training opportunities, both internally and externally.

One, of course, is to overcome real and imagined barriers. It's not easy for state laboratories to begin interacting with clinical laboratories at all levels. There are barriers. Some of these are real. Some of them involve time. Some of them involve resources, but many of them are imagined. You've got to get to know one another to understand how we can work together.

Another challenge is the challenge to promote conditions for growth. There needs to be a mutual understanding of the respective roles of the sentinel laboratory and the state reference laboratory. You need to be able to identify a value to everyone involved in these networks and in this

training and education opportunity. It has to be a win-win situation, not a waste of someone's time. It has to be ongoing communication. Not just once in awhile, but a relationship, and it has to be continually reinforced as to what the essential roles are of the state laboratory, the training coordinator, the state laboratory staff and the sentinel laboratory staff in these networks to address emerging threats.

On the next slide, slide 38, go on with some additional challenges that include a shift from independence to interdependency. That's sort of a cultural change. We need to establish a new laboratory culture where we don't just do our own thing, but we actually establish a culture where we consciously think in terms of working together, of having an interdependency. In order to solve today's problems or deal with today's problems of public health, we need to expand the definition of public health beyond our public health laboratories to include all those others as well.

Now, I want to conclude by just listing for you some of the comments that we have received in our Minnesota public health laboratory from some of the training, some of the folks that have actually experienced the efforts of

Randy and others in our state laboratory as we have provided them with workshops and training opportunities of various kinds.

If you go to slide 39, some of the training comments, "An excellent workshop. Everyone did an excellent job, very good information. Cool, very informative." On the next slide, they go on, "I have a much better understanding of public health. This is a great service you provide. This is important information to get out to the local labs." It's really rewarding for Randy and others and myself, as laboratory director, to see that this interaction really is productive. It really works. It's really appreciated. It's not just they benefit, but we also benefit greatly as well.

Go on to the next slide, slide 41, some additional training comments. "I have a much better understanding of public health." How many times do we realize in our state public health laboratories or in our public health laboratories, in general, that the clinical laboratories really don't have a clue about what we do? We have a pretty good idea what they do, but they don't necessarily know what we do. It's important, through the state training coordinator and these educational training opportunities, to clearly establish the difference in what we do and what they do and how we can do it all better together.

Another comment, “This is a great service you provide. This is important information to get out to the local labs.”

Slide 42 goes on, “Thank you and the rest of your staff for a very informative and interesting day at the workshop. I came away with great pride in our public health department and a new understanding of what your department stands for.” Again, reinforcing the idea that they really didn’t know what we did before. This is an opportunity to make that very clear.

Finally, in slide 43, a training comment, “It’s nice to see the Department of Health getting to know the labs in greater Minnesota,” or, it could be greater Indiana, or could be greater Iowa, greater Virginia, greater whatever, “even us little ones.” That’s particularly important, I think. We sometimes interact with the large laboratories**,** clinical laboratories, in our metropolitan areas and our larger cities within our states, but let’s not forget those small laboratories out there who have a tremendous need for education and training opportunities. Who need to be able to contact someone like our state laboratory training coordinator that can put them in touch with the right person to discuss some of the concerns or issues that

they might have in their small laboratory. Because those laboratories also serve patients, and those patients need to have quality laboratory practice in place in order to provide the data that the physicians need to treat those patients.

It goes on to say, “in greater Minnesota, even us little ones, rather than being a giant Goliath sitting in the metro area.” I never thought we were considered to be a giant Goliath or the 500-pound gorilla, but I suppose that certainly is the perception that could be present, particularly in the smaller clinical laboratories in our states.

Finally, if you go to the last slide, slide 44, I just had to go back to the lake, and there you see two folks out in a boat, the same north central Wisconsin lake. The importance of networking, I think if I’ve been able to impress you with anything, it’s the importance of networking. It’s the important role that the state training coordinator has in making sure this networking occurs in providing training and education.

We’re all in the same boat, whether we’re clinical laboratories, sentinel laboratories, or whether we’re state laboratories or local public health laboratories, we’re all in the same boat in trying to protect the public

against the emerging threats that we have to be faced with. We're working together to prevent disaster. By working together, we can more rapidly and at an earlier stage detect emerging threats. We can establish effective networks. We can have continuous improvement of laboratory practice, both in our state labs as well as in the clinical and other sentinel laboratories, and we also can move toward that all hazards approach. We talk a lot in this talk and in talks we hear about microbial threats, but it's not just biological. There are also chemical threats and radiological threats that we have to be concerned about. I think in our public health laboratories, as we establish networks, it's not just with clinical laboratories, but also with environmental laboratories and other agency laboratories to deal with all hazards.

In conclusion, I think the state training coordinator has a very important role to play in providing the training and education that's necessary to sustain the networks that we need to have in place, laboratory networks that we need to have in place, to address all of these emerging threats. All of these all hazards that we have to be concerned about today.

If you don't know who your state training coordinator is in your state, I certainly hope you will be able to find out who that is. If you don't have

one, that your state has an opportunity to put one in place because I think they play an essential role.

I appreciate the opportunity you've given me to say a few words about this today. If there are any questions, I think we may have some time to address those as well. Thank you very much.

B. Perdue Thank you, Dr. Crouch. We will now take your questions.

Coordinator At this time, I show no questions.

B. Perdue Let me put one out for just a minute. This is Becky, again. I wonder how many states have formally set up their sentinel laboratories into a network and found, as we have in Virginia, we have over 100 sentinel labs. In order to have good communication, we've actually established a communication group, selecting about 20 of those to represent the different, small, large, rural type independent labs and so forth. We are meeting quarterly, providing education to them and entertaining their questions and concerns, and then getting that out to the whole sentinel lab group. I wonder if other states have tried that same approach.

Dr. Crouch While we're waiting for those comments to come in, hopefully, some states will respond to what you just said, Becky, here in Minnesota, we have 125 sentinel laboratories, clinical laboratories. We are in the process of setting up what we refer to as an advisory group where we can sit down periodically with representatives from the large and small clinical laboratories to talk about things that we need to discuss together. That's a great approach.

B. Perdue Do we have any other questions or comments?

Coordinator At this time, I show no further questions.

B. Perdue Okay. We don't have a very talkative group today, but if you have a question, you can e-mail your question to neoffice, that's the northeast office, neoffice@nltn.org. Dr. Crouch will answer by e-mail.

Again, I would like to remind all the participants listening in to our program to register and complete an evaluation form by May 13th. The directions for this are on your confirmation letter and general handout. They were also e-mailed to each site representative this morning. Documenting your participation helps us to continue to bring high quality,

cost effective training programs in a variety of formats. When you have completed the registration and evaluation form, you will be able to print your certificate of attendance.

That concludes our program. Our next public health series will begin in the fall. The cosponsors of today's program would like to thank our speaker, Dr. Norman Crouch.

From the Division of Consolidated Laboratory Services in Richmond, Virginia, this is Becky Perdue. Good Day.